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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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AN ADDITION TO OUR LITERATURE.

We have this week to welcome the appearance of a new professional journal—*Veterinary Review*. A copy reached us last week, but the several limitations of the times prevented our commenting on it in our last issue. The title indicates the lines of the work: and its appearance is justified in the following sentences from the "Foreword" by the editor, Dr. O. Charnock Bradley.

"When we are told that in 1914 there were about a hundred periodicals professedly devoted to veterinary science in one form or other, we realise how impossible it was for any veterinary surgeon, however leisured, to make himself acquainted with all that was being written for his benefit and instruction. When we remember that articles of importance to veterinary science were also appearing in a multitude of periodicals not specially devoted to veterinary work, the impossibility of anyone keeping in touch with all literature appertaining to veterinary science is the more obvious."

To those members of the profession who endeavour to keep themselves informed on the progress of veterinary science and art, this journal, which is to be published quarterly, will be a very welcome aid. Comparatively few men keep up their practice with the one modern language usually taken in the preliminary examination: indeed, there are not a few whose professional reading is distinctly limited in scope. The outdoor life of the country practitioner, and the association with men who are seldom well read in scientific matters—despite the great advances made by farmers in recent years, does little to encourage the reading habit. Add to this the necessity of earning, and the remains of that old-time fetish worship of "the practical man," and it is easy to see where the new *Review* should find its scope. There is no other such work in the English language at present. *The Veterinary Tropical Bulletin* covers only a portion of the ground. *Revue générale de Méd. Vét.*, published at Toulouse by M. E. Leclainche, is inaccessible to many men on account of the language.

Besides an article on Feeding and Economy, by Prof. R. G. Linton, the current number contains Abstracts, Reports, Reviews, and Notes on books. Only those who have experience of such work can appreciate the amount of reading and digestion involved in the production of such a number—it gives no indication of the amount of unused material which has to be gone through.

The work it well printed in good readable type: the size is Royal 8vo. ($9\frac{3}{4}$ by $6\frac{1}{4}$), and this number runs to 102 pages. The price is 10/6 per annum, including postage: single copies 3/6: it is published by W. Green & Son, Ltd., London and Edinburgh.

PURPURA.

After reading the very interesting paper and discussion on Purpura in your last week's issue, I am tempted to record the following case, which at the time presented some unusual, not to say baffling features.

A riding mare of yeomanry type was reported off her feed at mid-day stables; when at work that morning nothing unusual was noticed.

Beyond dulness and a slight temperature, no special symptoms were shown, but as several horses of that troop were then suffering from influenza she was isolated, and an ammon. carb. ball was given. Later on she was considerably brighter, and cleared up her evening feed.

Next day, at 10 a.m., I was hurriedly called and told that in the morning she appeared all right and fed well, but later became dull, and ultimately lay down. More symptoms developed which increased in severity, and when I saw her she showed marked colicky pains, pulse was feeble and frequent, temperature 103°, breathing quick, slight œdema of all legs except the off fore; huge swelling of the throat, slightly œdematous, painless, and apparently not involving the deeper structures; swellings on chest, abdomen and loins of varying sizes, also fast trickle of apparently pure blood from both nostrils. The most careful examination of the visible mucous membranes, conjunctivæ, nostrils, lips, tongue, and vulva failed to reveal the slightest indication of petechiæ or ecchymoses.

At first I was uncertain whether it was a case of hyper-acute purpura in which its most characteristic feature—petechiæ—had not developed; or whether I had a case of anthrax to deal with. Some of the symptoms were certainly suggestive of the latter. Another fact that lent considerable colour to the theory was that the horses of the troop were, and had been for some time, picketed on lines in a disused tannery.

Endeavours to obtain a microscope were fruitless. Precautionary measures were taken. The mare was still further isolated, and treated with turpentine and oil, and adrenalin injections.

The discharge ceased in a few hours, but not before she had lost a quantity of blood. Throat œdema slightly subsided, being replaced by swelling of lips and nose, increased œdema of legs—still no petechiæ.

In evening much worse, evident œdema of lungs; not expected to survive the night.

Next morning decidedly better, breathing much easier, feeding; throat swelling had disappeared; petechiæ and ecchymoses were evident in abundance on all the visible mucous membranes.

Apparent improvement maintained until next day, when she had a relapse, and a few hours later suddenly collapsed.

Post-mortem revealed usual appearances of purpura, the lungs particularly being very œdematous.

To my mind, the interesting features are the length of time before petechia or ecchymosis became visible, the loss of blood, and the fact that the off fore remained fine, whereas the other legs became very swollen.

I have tried practically all the medicinal treatments advocated, except intravenous injections; I have found none infallible, but judicious alternation seems to answer well. I give turpentine emulsion with injections of adrenalin for a few days, afterwards alternating with nuclein. Pot. iod. in drinking water. A combination of some of following:—Quinine, iodine, ferri sulph., ferri perchlor., nux vomica, and vegetable tonics, given alternately. At the present moment there are four cases under treatment; three are convalescent, but the other still hangs in the balance.

CAPT. A.V.C.

UNUSUAL CASES.

In June, 1914, a four-year-old Shire mare, the property of a client, gave birth to twin foals: both dead, both had crooked legs.

In May, 1915, I was called in to a difficult foaling case due to hydrocephalus, one of the worst cases I ever saw. Owner asked my advice *re* breeding again from the mare, and I said it was a pure coincidence.

In August, 1916, I was called again to the same mare. The man said it was a head presentation with no feet coming. I made an examination fo the fore legs: the head was out of the vagina, but I could find no trace of the fore legs anywhere. I came to the conclusion that he had no fore legs, but had not the courage to tell the owner; so two of us pulled at the head without ropes and out came the foal, alive, but without a vestige of the fore legs. The hind legs appeared longer than usual in a foal, and he was jumping about in the stable on his sternum. On post-mortem, the scapula was present on each side, but towards the lower end it did not form a joint at all, simply the end of the scapula rounded off like a cricket ball.

Needless to say, the owner did not ask me again or my advice *re* breeding from her.

Case II. A farmer called at the surgery for some ointment to remove a wart from a Shire mare, above the eyelid. I gave full instructions, but the servant used it carelessly, and some of it went into the eye, and in a week I was called in, but too late, as the eye had been penetrated, and she had lost her eye. This was about February, and the mare was in foal. In June the owner came to the surgery and told me the mare had foaled, and that the foal had only one eye—on the same side as the dam had. In a few weeks I was at the farm again, and I saw the filly and dam. Owner had the mare since birth, and also her dam and granddam, and their eyes were all right.

Case III. Gloss anthrax. During the last few months a very serious outbreak of anthrax has occurred on a farm here, causing in all about thirty deaths. Whilst this was going on I had a case of Gloss anthrax on a farm close by, in a cow; in fact, if the infection was carried in the drinking water, it would naturally be likely to happen here, as it was the same water that supplied both farms. I have never connected anthrax and gloss anthrax, but I thought this case was very suspicious.

I punctured the swelling under the tongue and collected some of the liquid for microscopic examination; and it showed practically no germs but those of malignant œdema; and before my investigation was complete the animal was all right again.

G. JONES ROBERTS, F.R.V.C.S.

Pwllheli.

BLACK QUARTER (?) IN THE PIG.

HENRY TAYLOR, F.R.C.V.S., Haywards Heath.

In view of the articles in the veterinary periodicals some time ago in reference to the occurrence of black quarter in the pig, an account of the following may be *à propos*.

During the recent cold weather a pig at a farm was found dead one morning; it had been apparently in good health the evening previous. Moreover, he had eaten his food as usual then. As the day he was found dead happened to be Sunday, the post-mortem was not made until the following morning, though rapid decomposition has *not* been a marked feature lately in carcases lying in the open.

Post-mortem. Carcase in poor condition; axillary region and shoulder of right leg puffy and crepitating; gas underneath the skin, which crackled on pressure; on incising the part the muscles were found to be black in places with portions of normal coloured muscle in between. In short, the appearance was identical with black quarter in bovines, and the disease is particularly rife in this district. An incision into the muscles of the loins revealed numerous black spots about the size of a pea, though no gas formation was noticed here. There was some serous coloured fluid in the abdominal cavity, and the lungs were congested.

About a year ago, whilst examining a suspected swine fever case for the Board of Agriculture, I came across lesions in a pig which simulated black quarter, but they were not so marked as the above.

ABSTRACTS FROM FOREIGN JOURNALS.

EPIZOOTIC LYMPHANGITIS IN MOROCCO.

Monod and Velu have published, in *Le Recueil de Médecine Vétérinaire* for 1915, an illustrated article upon this subject. Their conclusions are summarised as follows:—

(1) *Recurrent attacks of epizootic lymphangitis:*—The authors have never seen cases of reinfection, but, on the other hand, have observed local delayed

relapses equivalent to reinfections. Four cases are detailed in which relapses occurred from three to six months after apparently complete recovery from a previous infection.

(2) *Osseous lesions in epizootic lymphangitis*:—Extra-cutaneous lesions are often secondary, and the associated abscesses in those cases facilitate diagnosis, or they may be complications of the lymphangitis. In rarer cases these extra-cutaneous lesions may be the only cryptococcic localisations clinically discoverable.

Osseous cryptococcosis was found in 17 out of 159 cases treated in the course of a year. Hitherto. the cryptococcus was not suspected to be the causal agent of the lesions, but it appears to exert a predilection for bony tissues. Clinically one can distinguish (i) ostitis associated with cutaneous lesions and (ii) primary ostitis.

A description of 17 cases, with photographs of four lesions, is given, in which lesions of localised and diffused suppurative periostitis, periostoses, suppurative osteo-myelitis, hypertrophying ostitis and spontaneous fracture are described, involving various bones, such as the maxillæ, scapulæ, sternum, and the pelvis. These lesions simulate all the forms of chronic ostitis due to other causes, and might be easily confused with them. The evolution of these cryptococcic ostites is always chronic, and they are most often post-traumatic lesions.

Diagnosis is difficult and can only be settled by means of the microscope.

Prognosis. Bony lesions constitute the most serious and most refractory of all the localisations. Out of 20 cases of epizootic lymphangitis slaughtered in a year as incurable, 13 had bony lesions.

Treatment should be the same as in cases of typical epizootic lymphangitis. Surgical intervention is only indicated in cases where a sequestrum is formed, and good results are then obtained in three cases out of every four. The successful results hitherto obtained in these cases by excision caused one to overlook the fact that the lesions were in reality cryptococcic in origin.—(*Trop. Vet. Bulletin*).

W. R. C.

CONTRIBUTION TO THE STUDY OF DELAYED OR "LATENT" TUBERCULOUS INFECTION*: by S. DELEPINE, Director of the Public Health Laboratory, University of Manchester.

In the course of an investigation which brought the writer face to face with certain aspects of latent infection, he observed some facts upon which the classical observations of Metchnikoff on Tuberculosis in the Meriones throws much light. Although the following speculative contribution is unworthy of the great master, its subject is not altogether inappropriate to the occasion which has caused it to be written.

The demonstration of the inoculability of Tuberculosis by Villemin, and the discovery of Koch's Bacillus, are the bases upon which our present knowledge of the etiology of Tuberculosis has been firmly established. It must, however, be acknowledged that these fundamental facts are not sufficient to explain fully the distribution of the disease. Our knowledge of the factors which, under ordinary circumstances, determine the incidence of the disease, is still very incomplete. The fact that under experimental conditions it is possible to produce tuberculosis in a normal animal by inoculation, inhalation, or ingestion of pure cultures of tubercle bacilli, may for a short time have led some inexperienced observers to believe that the penetration of Koch's bacillus into human tissues was sufficient in itself to produce tuberculosis. If this were true, there would be very few persons free from the disease, for its bacillus is so widely distributed that the members of a civilised community who have not at one time or another inhaled or swallowed tubercle bacilli must be very few indeed.

The ubiquity of the tubercle bacillus has led certain statisticians to the view that, as regards the occurrence of tuberculosis, the state of the possible victim is of primary importance. and that Koch's bacillus must under normal circumstances be considered as a factor of secondary importance. That there is some element of truth in this paradoxical view cannot be entirely denied, but that it is fallacious is quite certain, for it is easy to prove that tuberculosis cannot be produced without tubercle bacilli, and that all individuals are not equally exposed and liable to infection.

A belief in the fixity of the characters and properties of all the bacilli originally covered by the name of *Bacillus tuberculosis* has led certain observers to assume the existence of a number of species or races of that organism. The quantitative pathogenicity of these kinds of bacilli constitutes for these observers the chief specific difference between these types. To speak only of tuberculosis as it occurs in three vertebrata, there would be a human, a bovine, and an avian kind of tuberle bacilli with fixed characters. The direct passage of tuberculosis from birds to mammals and *vice versa* is certainly attended with difficulties, and the same may be said to a lesser degree of the passage of human bacilli to canine or bovine animals. But these difficulties, though usual, are not constant, and the writer has observed instances of the direct intercommunicability of tuberculosis between mammals, and between birds and mammals. As to the intercommunicability of tuberculosis among mammals, the author's experience leaves him no room for doubt. In this respect he agrees with several eminent observers, and does not think it necessary to do more than state his own views before dealing with the special object of this communication.

What renders the elucidation of the causes of an infectious disease so difficult is that it is necessary to take account of the various ways in which the predisposing and determining factors have combined in their action. These factors may be grouped under at least six heads:

Distribution and habits of the pathogenic organism;
Conditions influencing its number;
Conditions influencing its virulence (pathogenicity, toxicity);
Opportunities of access to channels of infection;
Conditions influencing the resistance of the possible host;
Frequency and completeness of recoveries from infection (occult or manifest).

Of the factors which determine the occurrence of infection and the course taken by the disease, there are two which are of special importance—the resistance of the possible host to the infecting parasite, and the pathogenic power of the parasite itself. In the case of the tubercle bacillus, it has been demonstrated clearly that tubercle bacilli obtained from various kinds of animals are not usually equally pathogenic to certain experimental animals. Apart from the different degrees of resistance which each kind of animal offers to bacilli coming from various other kinds of animals, there are various conditions which influence the resistance of

* Extrait des *Annales de l'Institut Pasteur* (Novembre, 1916—Tome XXX, p. 600.) Jubilé E. METCHNIKOFF.

individuals of the same species to any one type of bacillus.

The way in which the parasite and the host react upon each other can be studied most successfully when the infective power of the bacillus and the resistance of the host are almost equally balanced, as has been done by Metchnikoff in his classical study on experimental tuberculosis in the Meriones. His description of the struggle between the tubercle bacillus and the giant cell of the Meriones is very suggestive of what must happen if, for some reason or other, the physiological activity of either the cell or the bacillus is reduced or enhanced. The secretion by the bacillus of concentric layers of protecting material, and the precipitation of calcareous salt in the parts of the giant cell which are, in all probability, affected by the bacillary toxins, indicate at least part of the mechanism of attack and defence.

In the course of experiments made with the view of ascertaining the effect which the action of various agents had upon the virulence (using the word virulence in its most general sense—all that renders the organism capable of producing irritative and toxic lesions and of multiplying and spreading in its host) of tuberculous products of human and bovine sources, one is sometimes able to observe evidence of a reduction in the pathogenic power of bacilli, and this reduction may be sufficient to render the cobaye capable of resisting bacillary invasion much in the same way as the Meriones resist the action of bacilli of normal pathogenic power.

Subcutaneous inoculation on the inner aspect of the hind leg at the level of the femoro-tibial articulation with a pure culture or matter containing an extremely small number of bacilli produces in the cobaye typical lesions, the extent and distribution of which are of great value in determining the number and virulence of the bacilli. Subcutaneous inoculations in other parts of the body, or intraperitoneal injections yield much less comparable results.

As lesions appear in new organs, the older lesions increase in extent, passing through stages of necrosis, caseation, fibrosis, etc. At first the organs affected increase considerably in size, but after a time they show a tendency to contraction owing to the production of fibrous tissues and absorption of degenerated products.

The extent and distribution of the tuberculous lesions in an inoculated animal are determined by six factors at least:

1. The number of bacilli;
2. The virulence of the bacilli;
3. The time which has elapsed since infection;
4. The resistance of the animal to infection;
5. The seat of inoculation, and
6. The amount of damage done to the tissues at the time of inoculation. For purposes of comparison some of these factors may be more or less successfully reduced to constants by suitable precautions.

The differences produced by time can be eliminated by examining the animals after a constant interval of time. The resistance of the animal can be made as constant as possible, by using animals of the same race, age and weight, and keeping them previous to, and after, inoculation under identical conditions. It is obvious that in practice one is obliged to be satisfied with conditions which are only approximately similar. The seat of inoculation and the amount of damage done to the tissues can be made practically constant by due attention to details.

The only two factors which are necessarily variable are the number of bacilli and their virulence.

[Details of several sets of experiments, with tables, are given, of inoculations and examinations after 10, 20, and 35 days, with the "organs affected and lesions visible in an ordinary dissection." The results are summarised in the following findings.

Milk obtained from the tuberculous udder of a cow was highly pathogenic when fresh, 0.2 gramme of it being capable of producing in 15 days a tuberculous ulcer at the seat of inoculation, well marked tuberculosis of the popliteal, superficial and deeep inguinal, sublumbar and renal lymphatic ganglia corresponding to the leg inoculated and distinct tuberculous lesions of the retrohepatic, bronchial, suprascapular ganglia and of the spleen liver, and lungs.

Some of that milk was heated. In the course of eight minutes the temperature was raised from 58° C. to 78° C., and was for four minutes above 68° C. The same milk was heated for ten minutes more, the temperature rising gradually to 92° C., when a second sample was taken. The quantity of untreated milk inoculated was 1 c.c.; of treated milk, the sediment of 40 cc. obtained by centrifugalisation was used.]

1. Cobayes inoculated with untreated tuberculous products rich in bacilli, developed at the seat of inoculation extensive tuberculous lesions in two weeks.

2. Cobayes of the same size and kept under identical conditions as the last, after being inoculated with a much greater quantity of the same tuberculous products previously heated, developed very slight lesions at the seat of inoculation in the course of 11 weeks.

3. The viscera and the majority of the lymphatic ganglia of the cobayes inoculated with the untreated tuberculous products, were the seat of extensive tuberculous lesions six weeks after inoculation.

4. In the cobayes inoculated with the heated tuberculous products, the viscera and lymphatic ganglia were affected nearly to the same extent as those of the cobayes inoculated with the untreated material, but this result was not obtained until after eleven weeks.

5. From these results it would appear that the heated bacilli were at first barely capable of overcoming the resistance offered to them by the phagocytes in the region first infected, but that some bacilli had escaped and had been carried away probably by some of the migratory cells. These bacilli had been able to multiply and to regain their pathogenic power.

6. The facts observed seem also to indicate that the recuperation of this pathogenic power became more marked as the distance from the seat of inoculation increased, for, while the local lesions remained insignificant, those of distant organs were practically as extensive as those found in the animals inoculated with untreated milk.

7. The relation between the extent of the tuberculous lesions and the distance from the seat of inoculation, indicates that the bacilli which had successfully overcome the various obstacles offered to their progress, had gradually become not only more numerous but also more virulent. This suggests strongly a process of *reinforcement of virulence by relays*, similar to that observed in the production of a "Virus fixe" by passage through a series of animals according to Pasteur's method.

8. In the experiments referred to in this paper, the period of latency did not exceed three or four weeks, but it was sufficiently long to reveal an aspect of infection processes which must be of great importance, more specially in relation to latent infections.

9. The fact that tubercle bacilli were still living and capable of a modified pathogenic action after being kept for nearly 500 days in a natural tuberculous product (milk), supports the view that under certain circumstances tubercle bacilli are still infective after remaining dormant for a considerable period of time.

VETERINARY SERVICES: GERMAN SOUTH-WEST AFRICAN CAMPAIGN AND REBELLION, AUGUST, 1914, TO JULY, 1915 AND FOR THE SUBSEQUENT PERIOD—JULY, 1915, TO 1ST MARCH, 1916. REPORT BY COLONEL JAS. IRVINE SMITH, J.P., Director of Veterinary Services, Union Defence Forces.

[Abridged.]

(Continued from p. 313.)

EASTERN FORCE.

The Eastern Force, had to trek through some 400 miles of desert, with its base at Kimberley. Part of the country between Kimberley and Kuruman was known to be a notoriously Anthrax infected area, and every precautionary measure was adopted to prevent this disease retarding movements, and although it made its appearance, it was effectively prevented from getting a hold. Only a limited number of casualties occurred amongst the transport oxen which did not hamper, in any way, the movements of the Force. There were no reported Anthrax cases amongst the equines. Major B. Runciman. A.D.V.S., was instructed to station an advance V. Hospital at Kuruman, and another at Bushmanspute, and to off-load all sick animals back or to the base at Kimberley. As the Column moved forward Mobile V. Section E was detailed to bring up the rear and collect all stray and worn out animals. This organisation operated very effectively, and Colonel Berrange, General Officer Commanding, reported as follows:—

"Veterinary. - - - This service was efficiently carried out by the S.A. Vet. Corps. There was some horse-sickness but very little other sickness. Animals became somewhat run down from hard work and shortage of water and food. There were comparatively very few sore backs. The oxen had a few cases of Anthrax. Veterinary detachments were detailed to each unit."

On reaching German territory, instructions were issued for Rest Camps and V. Hospitals to be formed on farms where grazing could be found and water available. This force afterwards became part of the Southern Force.

CENTRAL FORCE.

This Force had its Base V. Hospital at Luderitzbucht, and as the Force advanced, V. Hospitals were posted along the lines of communication.

The scarcity of water was one of the great problems, and animals were restricted to watering once daily. The water supply consisted of condensed sea water, and water carried from Capetown by the various transport ships. This Force had to trek through 60 miles of desert from the seaboard, and were faced at Aus by an entrenched enemy. Glanders made its appearance in the early stages, but was quickly suppressed by a rigid enforcement of the Mallein test: 44 animals were destroyed. A large stock of Mallein ordered from England on the outbreak of hostilities had come to hand, and eradication of the disease proceeded quickly with a minimum loss and inconvenience to the troops.

The Central Force ultimately became merged into the Southern Force when the general advance took place.

Major G. T. Cannon was A.D.V.S. up to the joining of the Central and Southern Forces, when Major J. G. Bush assumed the duties of A.D.V.S. of the combined forces. Major Cannon was instructed to embark all sick animals at Luderitzbucht and fotward them to No. 5 V. Hospital at Parow, near Capetown.

SOUTHERN FORCE.

On the 13th Sept., 1914, Major J. G. Bush was instructed to proceed from Tempe to Upington for duty as A.D.V.S. to the Force mobilising at Upington under Lieut.-Col. Maritz. This Force was fairly well mounted, and Major Bush reported that the health of the animals was fairly good; strangles present, a number of injuries, ophthalmic and sand colic cases required constant veterinary attention.

On Oct. 2, 1914, Maritz moved out of Upington to Van Roois Vlei, and an inspection made immediately before his departure showed the animals belonging to his Force to be in fair condition, and hard.

For some time prior to this it had been obvious that things were very far from right in the camp. There were rumours of rebellion among the members of this Force, and the situation become distinctly strained. The loyal section, consisting of the veterinary officer, transport officer and Maxim Gun Section, were camped a short distance from Maritz's main camp with a road running between. After a consultation between Major Bush, Lieuts. Maclaren and Frere, it was decided, in order to protect themselves against sudden surprise and seizure, that sentries should be posted nightly in concealed positions, and that the Maxim guns should be trained on the rebel camp.

As senior officer, Major Bush was left in command of the camp at Upington, which consisted of various details from Maritz's force, transport and remounts, and a few days later he received a helio. message from Maritz to send on all horses which could possibly carry a saddle to Van Roois Vlei, even asking for those under treatment. This order he did not obey, and later on, the General Officer Commanding approved his action. The critical situation necessitated his being used for the next few weeks entirely in a combatant capacity, and during this period he was in command of defensive positions to the west of the town.

The first regiments of the Imperial Light Horse, Enseln's Horse, and Natal Light Horse, together with the 2nd Permanent Battery arrived in Upington, and the situation became easier. These regiments marched by road to Upington, and their horses arrived in fair condition with the exception of those belonging to the N.L.H., which showed an unduly large proportion of sore backs. The donkey transport attached to the regiment also arrived with the animals in wretched condition, and having lost a large number *en route*. Many of the donkeys examined were much too young for work and should never have been purchased.

On the 25th Oct. Major Bush proceeded to Kakamas, Maritz having been driven out. The horses had stood the work up to this point fairly well, but shortage of supplies necessitated wheat being used as a grain ration at Kakamas, resulting in a large number of cases of laminitis and colic. It was his intention to establish a base V. Hospital at Kakamas, but the rebellion in the Orange Free State and Tronsvaal brought about a complete change in the situation.

Capt. W. H. Andrews arrived in Upington on the 17th Nov. with No. 1 V. Hospital, and took over the veterinary sick lines at that place. Shortly afterwards Capt. Andrews, with a Mobile Veterinary Section, was despatched for duty with the brigade under Colonel Bouwer, which was operating against the rebel Kemp, who was attempting to form a juncture with the rebel Maritz on the German Border. This section did excellent service, and during the running engagement, which resulted in the rebels getting through at Rooidam, were able to save a considerable number of broken-down and exhausted animals abandoned on the line of march both by Kemp and the loyalists.

Capt. D. B. J. McCall, with Mobile Section A, arrived in Upington on Nov. 23rd, and was placed in command of the Base V. Hospital which was established there. On the completion of the operations against Kemp the troops returned to Upington.

Owing to the shortness of rations and the strain which the horses had been put to, their condition was very poor. After a veterinary inspection of the various regiments, it was found that at least a ten days rest was required before any operations conld be undertaken.

Colonel Van Deventer now took over command of the Southern Force, and for the next two months the rebel commandoes were constantly in the vicinity of Upington, which made it impossible to send the animals any distance from the town for grazing purposes. The Orange River also rose to an unusual extent, and, as there was no bridge, the transport of a sufficiency of forage from Rail Head to the south bank became a serious problem: consequently the condition of the animals remained stationary, and in many cases became worse.

There was a scarcity of remounts, and those sent down fell off in condition after arrival. A large number of debilitated animals, which, owing to the shortage of forage it had been found necessary to send out to neighbouring grazing farms, went from bad to worse, and most of the survivors did not again become fit for service during the Campaign. It is not suggested that anyone was to blame for this state of affairs, which was due to the exigencies of the Military situation, and to the swollen state of the river. Had the railway bridge been completed during the dry season, instead of waiting until rail head reached the south bank, it might have been avoided.

During January 1915, owing to the proximity of enemy forces to the town, it was found necessary to remove part of the sick lines to a more sheltered spot in order to be out of shell fire.

On January 24th 1915, the rebels under Kemp and Maritz, attacked Upington, and a few days later a German force attempted to surprise Kakamas. Both attacks were repulsed, and this led to the surrenders of the rebel forces early in February. After this the position with regard to the animal rations became considerably easier, and it was possible for full rations to be issued again.

The 4th Mounted Brigade, with Mobile Veterinary Section F under Captain P. R. Viljoen attached, arrived during the first week in March and preparations were made for a general advance.

The Veterinary arrangements were as follows:—

Maj. J. G. Bush: Asst. Dir. Vety. Services.
Capt. P. R. Viljoen and Mobile Sec.: 4th Mtd. Brigade
Capt. Andrews, Mob. Sec.: 10th Brig. (Cl. Van Deventer)
Capt. Strachan and Mobile Section: 11th Mtd. Brigade
Capt. Kellett and Vety. Details: Transport.
Capt. D. B. J. McCall: Base Vety. Hosptl, Upington.

On March 10th Maj. Bush left Upington for Headquarters, Johannesburg. He visited Kimberley, and inspected the V. Hospital under Capt. J. Donaldson, and also acted as the President of a Board of Enquiry into the purchase of certain remounts at that depot. Later, he inspected Standerton Remount Depot. On completion of that duty he returned to Upington with instructions to join Gen. Smuts' staff as A.D.V.S. with combined forces.

On arriving at Ukamis, in German territory, he found that orders had been received for the whole of the Southern Force, with the exception of that part which originally composed the Central and Eastern Forces, to return to Upington, and he, therefore, went back to that place to make the necessary arrangements, after instructing the various veterinary officers to return with their respective brigades.

As glanders was now known to exist amongst animals belonging to the Southern Forces, arrangements were made for the malleining of all the horses on arrival at Upington. It was at first thought that the mules might be allowed to go forward untested, but, as a case of glanders was reported amongst a consignment arriving at Maitland, the order was made to test all equines.

On the 4th Sept., 1915, he was ordered to Kimberley, and from there to Capetown, in connection with an outbreak of glanders at Maitland Transport and Remount Depot.

On Nov. 24th he was instructed to return to Upington, remaining in charge of veterinary duties at that station until the Base V. Hospital was closed down in Jan., 1916.

Staff. Maj. Bush reported that the officers under his command carried out their duties zealously and well, frequently under very trying conditions.

Scheduled Contagious Diseases.

Glanders. The first case of glanders in the Southern Force occurred amongst the horses of the 4th Mounted Brigade which arrived at Upington from Potchefstroom in March, 1915. On 5th March Capt. S. Elley, S.A.V.C., reported that one of the horses belonging to the 4th Mounted Brigade, which had been taken out of the train at De Aar, had been found to be suffering from glanders and was destroyed. The horses belonging to the regiment were at once tested at Upington, and seven reactors were destroyed. No further cases of glanders were reported until 3rd May, during the demobilisation of the Southern Force, when Capt. E. Kellett reported a clinical case in a horse which came from Schult Drift Transport Depot at Kamis, G.S-W.A.

It was then decided to test all equines belonging to the Forces as they arrived at Upington, and animals continued to return from the Protectorate until Jan. 16, 1916. By the latter date 25,454 animals had been tested out of which 810 reacted and were destroyed. Post-mortem examinations were made, and in the majority of cases revealed young and active lesions in the very early stages. A very large percentage of officers' horses reacted, due, no doubt, to the fact that these animals were frequently stabled in German South-West Africa. Many captured German horses reacted, and on post-mortem examination proved to be badly infected. Many showed old-standing lesions.

Outbreak at Maitland. In Sept., 1915, Capt. Andrews, S.A.V.C., reported that owing to the appearance of glanders at Maitland Transport and Remount Camp, it had become necessary to close the Depot to all movements. There were some 9000 animals at Maitland, and after consultation with the various officers it was decided to test the whole number and move them to clean ground at Vredehoek. Four kraals were set aside at Maitland, two for injection, and two for malleined animals under observation. These kraals were thoroughly disinfected and lime-washed, and disinfection was repeated after the discharge of each batch of animals. Immediately after the animals had been passed they were branded on the neck with a numerical brand according to the day they had been malleined. They were immediately removed to Vredehoek and kraaled according to the neck number. On the expiration of ten days the re-test was carried out at Vredehoek and the animals released. The results of this procedure were very satisfactory, and glanders did not again make its appearance at Maitland.

Mange. With the exception of a few isolated cases, this disease was not noticed in the Southern Force until June 1915, when a report was received from Capetown that a number of mules amongst a consignment despatched from Upington on June 4th without any Veterinary examination prior to departure were found

to be badly affected. In the same month 400 horses and mules came forward from the Protectorate which were all affected with the disease, and the number continued to increase throughout July, A dip was therefore erected and all equines passing through this Depot were systematically dipped in Arsenite of Soda solution, before being sent forward to Kimberley. Bad cases were sent to the sick lines and dressed with Sulphur dressing. Considering the prevalence of this disease, and the fact that it was kept within bounds, the results were extremely satisfactory. The total number of cases of Mange treated at the Base V. Hospital, Upington, was 1,648.

Anthrax. This appeared amongst the Transport Oxen in Nov. 1914, and cases continued to occur until May 1915. All precautions were taken with regard to the disposal of the carcasses by burning and the disinfection of the ground. The outbreak never attained serious dimensions, only twelve cases occured in all.

Epizootic Lymphangitis. Only five cases were noted with the Southern Force. In every case the animal was destroyed and no treatment attempted.

OTHER DISEASES.

Strangles. This was one of the most troublesome of those dealt with by the S.A. Vet. Corps with the Southern Force. It first made an appearance at Upington before the Maritz rebellion, and continued to account for a number of cases on the sick lines for the remainder of the campaign. The disease is serious on a campaign in that it is liable to handicap operations. The ordinary treatment was adopted and isolation strictly enforced The mortality was three per cent. of the infected cases, a number of fatal cases being due to secondary infection. One of the chief difficulties experienced in dealing with this disease in South Africa is that it is not a disease of adolescence as in Europe but attacks animals of any age. Total number of cases treated at B. V. Hosp., Upington 459. Deaths 13.

Horse-sickness. This started amongst the horses stationed along the Orange River during Feb. and March 1915, and was the cause of a very serious mortality, some units losing as many as fifty per cent. of their horses. As soon as the Force moved off from the river towards the German South-West Border, during the latter part of March, the mortality perceptibly decreased, and finally practically ceased. In standing camps and wherever possible, smearing with paraffin and the use of smoke fires were adopted with good results. It is difficult to estimate correctly the number of animals the Southern Force lost as a result of this disease during the campaign : owing to the hurried purchase and mobilisation of troops it was impossible to devote sufficient time to immunize the animals.

Ringworm. Very prevalent during Jan. Feb. and March 1915. The treatment adopted was Hydrarg biniod. and painted with undiluted Lysol, and was found to be efficacious. Total number of cases treated at Upington B. V. Hosp. 260.

Piroplasmosis. Not troublesome at Upington, probably owing to the freedom of this district from ticks. The cases which occurred had chiefly been infected elsewhere. Trypan Blue was used with good results ; and the ordinary treatment with Ammon. chlor. and Extract of Belladonna. Number of horses treated at Upington B. V. Hosp. 58. Deaths 4.

Pneumonia. Very prevalent at Upington during the whole of 1915, especially amongst the debilitated animals returning from the Protectorate at the conclusion of hostilities. Post-mortems made on animals shot on account of having reacted to the Mallein test also disclosed a large number of old lung lesions. The usual treatment was adopted. Number of cases admitted to B. V. Hosp. Upington 253. Deaths 51.

Sand Colic. This was one of the most serious experienced with the Southern Force, especially amongst the animals returning from the Protectorate. The shortage of forage during a considerable period accounted for this to a certain extent. Of the many treatments attempted, probably that of mild doses of linseed oil, and enemas, was attended with most success. Number of cases treated at B. V. Hosp., Upington, 350. Deaths 59.

Enteritis. This was accountable for a number of deaths at various times during the Campaign, and was, in many cases, due to injudicious feeding with mealies, wheat, etc. The ordinary treatment of linseed oil and Tincture of Opium was adopted with fair results.

Wounds and Injuries. The number of cases always in the sick lines as the result of saddle injuries was excessive, and formed a very serious reflection on the horsemanship shown by members of the Southern Force. Lack of attention to saddlery, and bad types of privately owned saddles ; also long marches without dismounting, were no doubt the causes of a large majority of these cases.

All diaries from individual officers, and returns, and tables are filed at the South African Veterinary Headquarters.

(To be continued.)

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :—

J. Cameron, Capt. A.V.C.	£1	1	0
W. A. Campbell, Boroughbridge, Yorks	1	1	0
J. N. Cooper, Capt. A.V.C.	1	1	0
P. J. Harris, Colonel A.V.S.	1	1	0
F. Hopkin, Capt. A.V.C.	1	1	0
T. Hopkin, Manchester	1	1	0
T. Lishman, Major A.V.C.	1	1	0
E. E. Martin, Lt.-Col. A.V.C.	1	1	0
W. L. Richardson, Wadebridge, Cornwall	1	1	0
J. W. Rider, Beamish, Durham	1	1	0
E. Wynne Williams, Dolgelly,	1	1	0
R. Wynne Williams, Capt. A.V.C.	1	1	0
Previously acknowledged	398	18	0
	£411	10	0

Anglo-Franco-Belgian Veterinary Relief Fund.

The following additional donation is reported :—

Veterinarians in Colorado, per R. H. Bird :			
Col. Greely, U.S.A.	£3	11	11
Previously reported	272	17	9
Total	£276	9	8

Wanted, a Definition.

The correspondent who sends us the following advertisment, asks for a definition of a "Fully qualified matron."

CANINE Nursing.—Wanted, Lady Probationer train under fully qualified Matron ; small premium required—Apply by letter, ——, M.R.C.V.S.

The Sussex County Herald.

A plea for exemption.

Mr. George Martin applied for exemption for his son, George Stenning Martin (18), cowman, of Hewen Street Farm, Cooksbridge. He stated that he had only three cowmen for 40 milch cows and 40 head of other stock.

The Chairman said he had received a letter from Mr. ——, M.R.C.V.S., stating that the lad had learnt to deal with a particular form of epidemic among cows and that rendered his services particularly valuable.

Mr. Knight said the lad was practically in the position of a bailiff, and it would be exceedingly difficult to substitute a young man such as this one, who assisted in the management.

Adjourned for substitution, the substitute to be satisfactory to the employer and the Tribunal.

East Sussex News.

OBITUARY.

THOMAS JACK, M.R.C V.S., Elmwood St., Sunderland. H. & A. S., 1865. Graduated, Edin: Nov., 1879.

Mr. Jack died on Feb. 26th, aged 75.

CORRESPONDENCE.

URINOUS ECZEMA. PURGATIVES IN PURPURA.

Sir,—Having had, a few years ago (the only case I have seen), a case of Urinous eczema, it was interesting reading the remarks of Mr. Davis at the Central Vet. Society's meeting. For your perusal I forward a photo. of the horse, which kindly return at your convenience.

I can confirm Mr. Davis' and Mr. Parkins' experience of perfect recovery in a case of Purpura hæmorrhagica after (by mistake) the administration of a six drachm ball.

GEO. WHITEHEAD, M.R.C.V.S.

Batley, Feb. 27.

CANINE PRACTICE—FEES.

Your correspondent "Utilitarian" evidently intended his criticism for my remarks upon veterinary prospects in your issue of February 3rd, under the *non-de-plume* of "Sinecure", and not that of "Observer" occurring in a previous issue dealing with Education; this, however, is just an oversight on his part. The question of fees is the point to which he draws attention, and with which I will endeavour to deal.

He refers to the dog owners of small means, a large community in some districts, as being unable or unwilling to pay us good fees, in some cases more than they pay their own medical men, and believes that a large source of income hitherto untapped is awaiting our consideration. From experience I have found, and occasionally have to point out to my clients, that it is wrong to draw any comparison between the fees of the medical man and those of the veterinary surgeon. First, that the medical man has a much larger *clientèle* and can therefore work more cheaply. Human lives being more valuable and responsibility great, pressure is exercised in seeking the services of the physician, whereas this is absent in the case of the smaller domesticated animals, the owner needing only to satisfy his or her inclinations in the matter, and no responsibility attaches to it, hence our remuneration is derived only from the few. "Utilitarian" suggests small fees for the small tradesmen, artisan class, etc., hoping thereby to increase their patronage. Personally I do not think from my experience that the game would be worth the candle. Many of the artisan class are well able to pay good fees, and I have known these same people pay their half guinea fees for a consultation, and have myself received accounts from them of several pounds; and my firm contention is this—that people unable or unwilling to procure assistance to their pets, are not justified in keeping same. In genuinely necessitous cases there are free institutions where they may seek advice—I am here referring to London.

From the opposite point of view "Utilitarian" would very readily discover that the artisan class would be very reluctant to do anything, however trifling, for him at any reduced rate; he requires his trade union rate and will not budge from it—a courage much lacking amongst professional men.

Lastly, I am asked what is to be understood by the term "respectable fees". Am I asked to give a scale of fees, visits, operations, etc.? This would be rather a lengthy undertaking, and the latter would depend upon the nature of the operation; but I will here roughly sketch out what I consider proper professional remuneration.

Visit 5/-, within radius of one mile. Evening visit 7/6.
Per mile 1/- and extra charge for medicines for distance visits. A minimum always of 5/-.
Consultation and medicine at surgery, a minimum fee of 3/6.
Rendering male cats neuter 5/-: females 10/6. Dogs 10/6 and £1 1s.
Small operations, such as teeth extraction 5/- to 10/6.
Major operations £1 1s, to £3 3s. or more.
Destroyal of dogs 5/- to 10/6; cats 3/6 to 5/-, depending upon the method adopted.
Whelping Cases £1 1s. upwards. Treatment of cats in Infirmary 11/6 per week; dogs 13/6 to £1 5s., depending upon the nature of the case.
Boarding cats 5/- per week, dogs from 7/- per week.

I have here enumerated a few instances of what I consider respectable fees for canine and feline work; and with these I have little demur—just an occasional malcontent such as is encountered in all practicee, whatever the fees charged.

Assuming the adoption of small fees and the expected increase of practice, which I doubt would follow, there would be a greatly increased responsibility and expense incurred. To those veterinary surgeons who undertake canine practice seriously, the fees above enumerated are fair and reasonable.

SINECURE.

THE WAR EMERGENCY COMMITTEE AND THE PRIVATE PRACTITIONERS.

Sir,—Referring to the meeting of the War Emergency Committee of the Council, R.C.V.S., and their recommendations and suggestions to the profession and local Tribunals, as reported in your last week's issue: Can anyone explain why Territorial officers are allowed to remain in this country and attend to their private practices? Why are they not sent for service abroad? Surely it is obviously unfair to ask civilian V. Surgeons to go abroad while these other men remain at home.

The writer knows several men who have not yet been away from their own practices, and have seen no foreign service, and he is of opinion that the Territorial Officers mentioned should be the first to be called upon: *their* work at home could be done by experienced civilian Veterinary Surgeons.

There are a good number of experienced V. Surgeons holding official appointments and in private practice who, for various reasons, cannot take up a commission, and I am sure that if our Council, or the authorities A.V.S., appealed to such men there would not be the urgent necessity which exists for Veterinary Officers for the A.V.C.—Yours,

Feb. 27. EMERGENCY.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editors to be addressed
20 Fulham Road, London, S.W

ARMY VETERINARY SERVICE.

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, Feb. 24.

The names of the following have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war :—

* * * * *

Capt. J. H. Ashton, A.V.S. ; Maj. A. Baird, Maj. (temp. Lt.-Col.) F. S. H. Baldrey, Temp. Lt. J. McC. Barry ; Vet. Capt. E. E. Bennett, A.V.S. ; Maj. A. Bostock, C.M.G. ; Temp. Capt. T. Bowhill, F.R.C.V.S. ; Maj. (temp. Lt.-Col.) E. Brown, D.S.O. ; Maj. J. A. Connell, Capt. (temp. Maj.) W. J. Dale, Col. J. C. Dwyer, Maj. (temp. Lt.-Col.) G. C. O. Fowler (T.F.), Maj., ret. pay ; Temp. Qrmr. and hon. Lt. J. W. Higgins, Capt. T. Hogg, Maj. E. D. Johnson, Capt. (temp. Maj.) A. S. Lawrie, Vet. Maj. (temp. Lt.-Col., T.F.) J. A. Meredith, ret. pay (Res. of Off.) ; Capt. (temp. Maj.) C. A. Murray ; Col. (temp. Brig.-Gen.) C. E. Nuthall, C.B., A.V.S. ; Temp. Qrmr. and hon. Lt. R. Owen, Lt. T M. Parker, Capt. J. C. S. Powell ; Capt. (temp. Maj.) J. W. Rainey, Res. of Off., A.V.S. ; Maj. E. C. Russell, A.V.S. ; Lt.-Col. (temp. Col.) H. T. Sawyer, D.S.O. ; Capt. (temp. Maj.) W. H. Simpson ; Hon. Maj.-Gen. F. Smith, A.V.S. ; Qrmr. and hon. Lt. G. J. Stacey ; Qrmr. and hon. Lt. C. Stephens ; Capt. (temp. Maj.) J. Tagg ; Capt. W. K. Townson ; Qrmr. and hon. Lt. H. B. Wall ; Col. W. B. Walters, A.V.S. ; Qrmr. and hon. Lt. A. H. Webber ; Lt.-Col. (temp. Col.) G. M. Williams.

Buckingham Palace, Feb. 28.

The following had the honour of being received by the King, when His Majesty invested them with the Insignia of Companions of the Orders into which they have been admitted :—

THE MOST DISTINFFUISHED ORDER OF ST. MICHAEL AND ST. GEORGE.

* * * * *

Major Arthur Olver, Army Veterinary Corps.

REGULAR FORCES. ARMY VETERINARY CORPS.

Feb. 22.

Major (temp. Lt.-Col.) A. G. Todd, D.S.O., to be temp. Col. whilst Dep. Dir. of Vety. Servs. (Oct. 23, 1916).

The order of seniority of the under-mentioned Capts. is as now stated, and not as in previous *Gazettes* :—A. A. Pryer, S. O'Donel, R. M. Bamford.

To be Lieut. (on prob.) :—M. Farrelly (Feb. 1).

Feb. 24.

To be temp. Lieuts. :—N. P. Olsen (Jan. 25) ; W. W. Kerr, J. W. Proctor (Feb. 12).

Feb. 26.

Temp. Lieuts. to be temp. Capts. :—J. D. Whitehead (Dec. 28, 1916) ; T. Woods (Feb. 8).

SPECIAL RESERVE OF OFFICERS.

Lieut. (on prob.) G. H. Bennet is confirmed in his rank.

CANADIAN A.V.C.

Feb. 24.

The promn. to the temp. rank of Capt. of temp. Lt. T. A. Girling, notified in *Gazette* of Nov. 29, 1916, is antedated to Nov. 20, 1915.

The following casualties are reported :—

ACCIDENTALLY KILLED—Cpl. W. Moore, 1063 P.A. (Portsmouth) ; Pte. A. J. Smith, 21590 (Chalk Farm, N.W.)

DIED—Pte. J. Shaw, 18921 (Rothesay).
Pte. A. N. Upton, 7473 (Melton Mowbray).

The A.V.C. Comforts Fund.

Dear Sir,—I have pleasure in forwarding further lists of subscriptions, and contributions of woollen articles, etc., as received since previous list kindly published by you in your issue of Jan. 27. I hope you may be able to give these space in this week's *Veterinary Record*.

Yours truly,
ADELAIDE M. MOORE.

Strathyre, Parsifal Road, Hampstead, N.W.

Subscriptions received since list published Jan. 27th.

Mr. E. H. Leach, Newmarket	£1	1	0
Maj. A. L. Horner, A.V.C.	5	0	0
Capt. C. M. Stewart, A.V.C.	1	1	0
Capt. Gordon Lalor, A.V.C.	5	5	0
Mrs. Sam Walker	1	0	0
Anonymous, Northallerton		10	0
Capt. A. N. Foster, A.V.C.	1	0	0
Mrs. F. Ascott, Bideford	1	1	0
Mrs. Holmes, Tipperary (as collected)	8	15	0
Capt. J. Forrest, A.V.C.	1	10	0
A friend	4	4	0
Mrs. Mosley	2	2	0
Capt. Percy Howard, A.V.C.	1	1	0
Proceeds of Concert held at A.V.C. Depot, Woolwich, including grant from A.V.C. Sergeants' Mess	30	0	0
per Maj. B. L. Lake : subscribed by Officers, N.C.Os. and men, No. 7 Vety. Hospital	5	0	0
per Maj. and Mrs. A. Baird, Edinburgh :			
Miss L. McNervy 1 0 0			
Mr. Maitland Kirwin 1 0 0			
Mrs. Macqueen 10 0			
Mr. A. M. Wright 10 0			
Mrs. J. P. Wright 3 3 0			
Mrs. Usher 1 1 0			
Mr. H. G. Younger 2 2 0			
Mrs. Rutherford Clarke 2 2 0			
Mrs. Bruce Lindsay 1 0 0			
Miss Boyd 1 0 0			
Lady MacKenzie 3 3 0			
Mrs. Herdman 10 0			
Mrs. T. H. Smith 2 2 0			
Lady Gibson Craig 3 0 0			
Mrs. Johnstone Ford 5 0 0			
The Misses Balfour Melville 1 0 0			
per Mrs. Baird 2 0 0			
	30	1	0
Also £1 from the Misses Milne, as expended on oilskin coat, sou'-wester caps and pair leggings.			
per Mrs. Rutherford : Mrs. E. F. Plunkett	1	0	0

Parcels received since Jan. 26th.

Mrs. Frank Thornton : Mufflers, mitts., puzzles
Mrs. Gordon : Socks. Mrs. England : Socks
Mrs. Macgregor : Socks (2 pcls.) Mrs. Morris : Socks
Mrs. Jessie Barber : Mufflers, helmets, mitts., socks
Mrs. Baird : Socks, mufflers, shirts, sou'-westers, gloves, mitts., oilskin coats, leggings, dominoes, wind-proof waistcoats, wool jackets, (3 pcls.)

Mrs. Ascott: Vests, mufflers, handkerchiefs, mitts.
Mrs. Rutherford: Socks. Mrs. Ferguson: Socks
Mrs. Quinlan (St. Albans Work Party, Streatham): Socks, mitts., mufflers
Mrs. Alison Brown: Socks (Rosskeen Guild); muffler (Mrs. Arthur Gill); mufflers (Mrs. G. F. Tremain); Socks, mitts., magazines.
Mrs. Ware: Muffler, shirts, helmets, socks, mitts.
Mrs. Charlton: Socks, mitts. Miss G. Walker: Muffler per Mrs. Ewing Johnston (from Miss Cromie): Socks
War Hosptl. Supply (Belfast): Socks (3 pcls.) (Fd. wool)
Mrs. Blue, Mrs. Mackenzie: Socks (Fund wool)
Mrs. Harold Barbour: Socks (Fund wool)
Mrs. Shipley: Socks, muffler (Fund wool)
Mrs. G. A. Banham: Muffler, cap
Mrs. F. W. Garnett: Mufflers, mitts., helmets, socks (2 pcls.)
Mrs. Leckie: Mitts., socks, mufflers, jerseys
Mrs. Cowan, Mrs. Cullen: Socks (Fund wool).
Mrs. Mair: Wither pads. Mrs. Kirby: Muffler, helmet per Mrs. J. Barber (Brewood):
Mrs. Greatbatch (Stoke-on-Trent): Helmets, mitts.
Mrs. F. Aulton (Tutbury): Helmet, mitts, socks
Mrs. McIntyre (Leek): Mufflers, mitts., socks
Mrs. Broadhurst: Mitts., mufflers
Mrs. E. A. Holmes: Socks, pad
Mr. J. Perry (Cardiff): Packs of Cards

HINTS ON HORSES. By Lieut. H. C. HARPER.

This is a 16mo paper-bound booklet of 32 pages, issued gratis to troops. Apparently it is not intended for the market; for no price is stated, and the publishers are not indicated. It has been written for the guidance of what we may call "emergency transport drivers"—men who, upon an exigency, are called upon to act as substitutes in the regimental transport, and who in some cases have had no previous knowledge of horses. The author, being a lieutenant in the 8th Yorkshire Regiment, the founder and late honorary Secretary of the Regent's Park Van Horse Parade, and late managing director of the Crystal Palace Horse Show, is well qualified to give advice to such men; and the book will be a great help to some. Mainly it is composed of "hints" on grooming, feeding, harness and harnessing, management on the line of march and in camp, and ailments and diseases—all very elementary, but well arranged and written, and on the whole admirably fulfilling their purpose. They are too elementary to extend the knowledge of transport drivers who have already learned their business, but they will be more than useful to those who have not. As is likely to happen in such a work, the section on disease offers some points which might be criticised; but upon the whole the author may fairly be congratulated upon a work which will meet the needs of those for whom it was written. W. R. C.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Ani-mals.	Out-breaks (a)	Ani-mals.	Out-breaks (b)	Ani-mals.	Out-breaks (b)	Ani-mals.	(b)	Out-breaks (a)	Slaughtered.*
GT. BRITAIN. Week ended Feb. 24	15	22			1	2	73	148	21	44	12
Corresponding week in 1916 ...	10	23			3	4	79	169	10	66	240
Corresponding week in 1915 ...	17	18			1	1			6	62	175
Corresponding week in 1914 ...	12	12	1	4	3	4	64	102	5	63	487
Total for 8 weeks, 1917	117	131			5	9	677	1445	252	309	103
Corresponding period in 1916 ...	102	118	1	24	13	40	724	1854	127	607	1934
Corresponding period in 1915 ...	141	158			6	9			102	624	2591
Corresponding period in 1914 ...	149	162	1	4	18	42	679	1298	102	423	3786

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Derby 1, London 1
Board of Agriculture and Fisheries, Feb. 27, 1917. Excluding outbreaks in army horses.

IRELAND. Week ended **Feb. 17**	...	...	...	...	1	1	Outbreaks ...	17	4	12
Corresponding Week in 1916 ...	...	...	...	...	...	...	3	19	4	18
Corresponding Week in 1915 ...	...	...	...	...	...	...	1	16	6	68
Corresponding Week in 1914 ...	...	...	...	...	...	...	2	32	7	60
Total for 7 weeks, 1917 ...	1	1	...	...	1	1	6	109	23	138
Corresponding period in 1916 ...	1	5	...	...	...	...	14	119	25	72
Corresponding period in 1915 ...	...	...	...	...	...	...	9	108	26	183
Corresponding period in 1914 ...	...	...	2	28	...	...	23	180	27	188

Department of Agriculture and Technical Instructi n for Ireland, (Veterinary Branch), Dublin, Feb. 19, 1917.
NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection